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|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Applicati n N . | Applicant(s) | |
| | 10/086,945 | SUGAMA ET AL. | |
| | Examiner | Art Unit | |
| | Sarah Song | 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with th correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to election filed 28 February 2004.
2. ☒ The allowed claim(s) is/are 1-4.
3. ☒ The drawings filed on 28 February 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachm nt(s)

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|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date <u>0504, 0702</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Please cancel claims 5-45.

This application is in condition for allowance except for the presence of claims 5-45 to inventions and species non-elected without traverse. Accordingly, claims 5-45 have been cancelled. It is noted that no claim was generic.

2. The following is an examiner's statement of reasons for allowance: The prior art of record does not disclose or reasonably suggest, either alone or in combination, all of the features of claims 1-4.

3. Althaus et al., Aihara, Kropp et al., Uebbing, Nurse et al., StegmueLLer et al., Gipson et al., Hideyuki et al. (cited by applicant), and Yoshino et al. all disclose optical fiber or waveguide couplers comprising a substrate, mirror and at least one lens for collimating or focusing an optical signal. However, none of the above cited references disclose or suggest either alone or in

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combination, the combined features of the claimed optical wiring substrate comprising a substrate, an optical waveguide with a core and a cladding, a slab optical waveguide and a planar convex lens continuously formed at a tip portion of an optical path of said optical waveguide, a mirror and an additional lens for collimating the light reflected with said mirror.

4. Bischel et al. and Kiyono et al. disclose optical semiconductor devices comprising a waveguide, and a slab waveguide and a planar convex lens continuously formed at a tip portion of said waveguide.

5. Matsuda also discloses an optical semiconductor device comprising a waveguide having a planar convex lens continuously formed at a tip portion.

6. However, there is no motivation or suggestion to combine the above references to arrive at the invention of claim 1 or 4.

7. The prior art of record also does not disclose or reasonably suggest the invention of claim 3 comprising a plurality of optical waveguides, each including a cladding, a core, a slab optical waveguide, a planar convex lens, and a reflective mirror; and one cylindrical lens provided on said waveguides in common to collimate the optical signals.

8. Endriz and Miyashita disclose a plurality of optical waveguides comprising mirrors and lenses, however, neither discloses or reasonably suggests a slab optical waveguide, a planar convex lens, and a lens to collimate, as claimed in claim 1, 3 or 4.

9. Furthermore, there is no motivation or suggestion to combine the above references to arrive at the invention of claims 1, 3 or 4.

10. Claim 2 is allowable for at least the same reasons.


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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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Technology Center 2800